



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Analog Multimeters

Some applications still require a good old analog meter for instant measurement.



117B

## Model 117B Pocket-Sized Multimeter

- Compact size
- Measures DC voltage
- Measures AC voltage
- Measures DC current
- Measures resistance
- Measures decibels
- 9V & 1.5V battery test



114A

## Model 114A 20,000 Ohms/Volt Multimeter

- 20,000 ohms/volt DC
- 28 ranges
- 3 1/2" mirrored scale
- Tests batteries under load
- Tests Transistors
- Includes batteries and test leads

## Specifications

	114A	models 117B
<b>DC VOLTS</b>		
Ranges	0-300mV, 3V, 12V, 30V, 120V, 300V, 1200V	0-10V, 50V, 250V, 500V
Accuracy	±(3%rdg), full scale	±(5%rdg), full scale
Sensitivity	20000Ω/V	2000Ω/V
<b>AC VOLTS</b>		
Ranges	0-6V, 30V, 120V, 300V, 1200V	0-10V, 50V, 250V, 500V
Sensitivity	8000Ω/V	2000Ω/V
Accuracy	±(4%rdg), full scale @50/60Hz	±(5%rdg), full scale
Frequency response	(+1dB): 6 V range: 40 Hz to 100 kHz. 30 V range: 40 Hz to 50 kHz. 120 V range: 40 Hz to 10 kHz. 300 V range: 40 Hz to 5 kHz. 1200 V range: 40 Hz to 1 kHz	
<b>DC CURRENT</b>		
Ranges	0.6μA, 3mA, 30mA, 300mA, 12A	0-0.5mA, 50mA, 250mA
Accuracy	±(3%rdg), full scale	±(4%rdg), full scale
Burden Voltage	Less than 500mV	
<b>RESISTANCE</b>		
Ranges	R X 10, 0 to 20 kΩ, mid scale 200Ω R X 1k, 0 to 2 MΩ, mid scale 20 kΩ R X 10k, 0 to 20 MΩ, mid scale 200 kΩ	0-10kΩ/1MΩ
Resolutions		
Maximum Open		
Circuit Voltage	R X 1, X 10, X 1k ranges: 3V, R X 10k range: 12 V	
Maximum Short		
Circuit Current	R X 1 range: 150 mA R X 10 range: 15 mA, R X 1k range: 200 μA, R X 10K range: 100 μA	
Accuracy	±3% of scale arc	±5% arc of scale length
Open circuit voltage	approx. 0.3VDC	approx. 0.3VDC
Overload protection	500V DC + AC Peak	500V DC + AC Peak
<b>dB Measurement</b> (dB scale)		
Range	-10 dB to +17 dB on 6 V AC range +4 dB to +31 dB on 30 V AC range +16 dB to 43 dB on 120 V AC range +24 dB to 51 dB on 300 V AC range +36 dB on +63 dB on 1200 V AC range	4 dB to +56 dB on ACV range
0 dB Reference	1 mW across 600Ω	1 mW across 600Ω
<b>Battery Test</b>		
Range	good-bad scale 1.5 V range for battery test only	good-bad scale 1.5V and 9V
Load	7.5 ohms	
Battery Drain	200 mA	1.5V: 100mA, 9V:20mA
<b>TRANSISTOR LEAKAGE TEST</b>		
Ranges	0 to 150 μA on RX 1k range 0 to 15 mA on RX 10 range, 0 to 150 mA on RX 1 range	
Accuracy	±5% of scale arc	
Maximum Applied Voltage	3 V, voltage measured on LV scale	
<b>TRANSISTOR GAIN MEASUREMENT</b>		
Range	0 to 1,000 measured on hFE scale with range switch set to R X 10	
Accuracy	+3% of scale arc	
Display	Jeweled pivots movement, 60 μA full scale	3 color mirror scale, 180μA
Polarity	+ or -, polarity reversal switch	
Operating Temperature	32° to 104°F (0 to 40°C)	
Storage Temperature	-4° to 140°F (-20° to + 60°C), <70% R.H, battery removed	
Power	Batteries: One 9 V	Two 1.5 V AA
Battery Life	200 hours typical (alkaline)	
Dimensions (HxWxD)	5.79 x 3.9 x 1.38" (147 x 99 x 35 mm)	3.5 x 2.38 x 1.19" (89 x 60 x 30mm)
Weight	11 oz. (308 g) with batteries	11 oz.(300 g)

## Accessories

**One Year Warranty**

SUPPLIED: Batteries, Test leads, 1 red and 1 black, Transistor test leads, Instruction manual (Model 114A)  
1.5V AA Batteries, Test leads, Instruction manual (Model 117B)